

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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| In re Application of | Atty. Docket: GB 020124 |
| MARK J. CHILDS ET AL. | CONF. NO.: 3728 |
| Serial No.: 10/523,379 | Examiner: STUART S. MCCOMMAS |
| Filed: DECEMBER 14, 2005 | Group Art Unit: 2629 |

TITLE: ELECTROLUMINESCENT DISPLAY DEVICE HAVING PIXELS WITH NMOS
TRANSISTORS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Sir:

Appellants herewith respectfully present its Reply Brief as
follows:

ARGUMENT/REMARKS

It is respectfully submitted that the Examiner's Answer seems to take two positions that are diametrically opposed to each other and therefore, the positions forwarded are not tenable.

In a first position, the Examiner's Answer admits that "Sanford fails to disclose a transistor directly connected to the anode of the display element." (See, Examiner's Answer, page 4.) In a second position, the Examiner's Answer takes the position that "Sanford does disclose that the transistor Q302 is directly electrically connected to the anode of the display element through transistor Q303 when transistor Q303 is turned on (column 6 lines 28-41 ; figure 3). When transistor Q303 is turned on to drive the display element 320, the transistor Q302 is directly electrically connected to the anode of the display element 320." (See, Examiner's Answer, page 17.)

This interpretation of the term "directly" is respectfully traversed. In this interpretation, I may have a direct connection with Steve Jobs because I can buy an Ipod through an Apple distributor. This is hardly how the term "directly" is interpreted

by a person of ordinary skill in the art or even as commonly understood by its plain meaning.

Further, as readily appreciated by a first year engineering student, a connection through a transistor results in at best, when the transistor is hard turned on, a voltage drop across the gate/emitter junction as well as numerous other electrical interactions (e.g., capacitance, see discussion in Appeal Brief and below) and as such, Sanford does not provide (emphasis added) "an amorphous silicon or microcrystalline silicon second drive NMOS transistor directly connected to the anode of the display element for supplying a holding voltage to the anode of the display element" as recited in claim 1.

Sanford is clear that it is the gate to source capacitance of Q302 (the second transistor in terms of the claim recitations) that is shown connected to the capacitor Cs310 which nulls out the gate to drain capacitance and thereby the voltage increase due to capacitive coupling from Q301 (see, FIG. 3 and the accompanying description contained in Col. 6, lines 50-59). The Appellants maintain that if Q302 were connected directly to the anode of the display element as suggested in the Examiner's Answer, that Q302

would not be enabled to null out the voltage increase from Q301 and accordingly, Q302 would not operate as it is intended by Sanford.

The Examiner's Answer attempts another tact in taking the position that "[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." While it is undisputed by the Appellants that this is a correct statement of the law of obviousness, it is not clear how this solves the problem pointed to in the Examiner's Answer. It is undisputed that Sanford does not show a direct connection of a holding voltage to the anode of the display element. The Appellants maintain that such a direct connection would render the device of Sanford inoperable for its intended purpose. It is not clear how the Examiner's Answer espouses to modify Sanford without rendering the device inoperable for the explicit purpose taught by Sanford.

It is respectfully maintained that it is well settled that when a modification renders a device inoperative for its intended

purpose, this modification is non-obvious. The Appellants maintain that the modification alleged as obvious in the Examiner's Answer, namely shifting the transistor Q302 to be directly coupled to the anode of the display element as apparently suggested would render the transistor Q302 inoperative for counteracting the voltage increase from Q301. Accordingly, it is maintained that this modification is non-obvious and in fact it is well settled that this type of a modification, namely one that renders Q302 inoperative for its intended purpose, is taught away from by Sanford.

It is not clear how the Examiner's Answer takes a position that "[t]he Examiner is not suggesting that the transistor Q302 from Sanford be reconfigured to be directly connected to the anode of the OLED but that the concept of directly connecting a transistor to the anode of the display element for the purpose of controlling voltage is well known and would have been obvious at the time the invention was made." It is maintained by the Appellants that in the structure of the claims as presented, this structure is nonobvious because this modification to Sanford renders Sanford inoperative for its intended purposes.

It must be stated that the Appellants find the stipulations in the Examiner's Answer confusing. If the Examiner's Answer is suggesting that the modification to Sanford is suggested by Koyama, the Appellants maintain that this modification renders Sanford inoperable for its intended purpose (see, further discussion of this above and as provided in Appellants Appeal Brief).

The Appellants also maintain that whether or not a direct connection to a power supply may be provided in some other circuit configuration is not relevant to the claims as presented. The Examiner's Answer has failed to provide a reference with a configuration as provided by the present claims or to provide a reference that may be so modified that is operable for its intended purposes. Accordingly, it should be clear that the recitation of claim 1 is nonobvious over the references provided and accordingly is allowable.

The discussion provided by the Appellants in the Appeal Brief regarding whether the Advisory Action was suggesting a use of "adding a second power line to the circuit of Sanford" was presented to try and comprehend how the modification suggested by the Final Office Action and maintained in the Advisory Action (and

the Examiner's Answer for that matter), could be made, without modifying Q302 of Sanford.

It is respectfully submitted that it is not clear in any of the Final Office Action, the Advisory Action and the Examiner's Answer how a suggestion is made to modify Sanford without making some modification.

Accordingly, it is respectfully maintained that the device of claim 1 is not anticipated or made obvious by the teachings of Sanford in view of Koyama '703. For example, Sanford in view of Koyama '703 does not disclose or suggest, a device that amongst other patentable elements, comprises (illustrative emphasis added) "an electroluminescent display element; an amorphous silicon or microcrystalline silicon first drive NMOS transistor connected between the anode of the display element and a power supply line; a storage capacitor between the anode of the display element and the gate of the first drive transistor; and an amorphous silicon or microcrystalline silicon second drive NMOS transistor directly connected to the anode of the display element for supplying a holding voltage to the anode of the display element" as recited in claim 1, and as similarly recited in each of claims 9 and 14.

Koyama, Yamazaki and Shimoda are introduced for allegedly showing

other elements of the claims and as such, do nothing to cure the deficiencies in Sanford in view of Koyama '703.

Based on the foregoing, the Appellants respectfully submit that independent claims 1, 9 and 14 are patentable over Sanford in view of Koyama '703.

Claims 2-8, 10-13 and 15-16 respectively depend from one of claims 1 and 9 and accordingly are allowable for at least this reason as well as for the separately patentable elements contained in each of the claims.

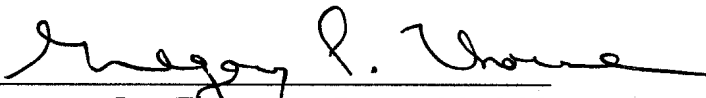
In addition, Appellants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Appellants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

CONCLUSION

Claims 1-16 are allowable over Sanford alone and in view of any of Koyama in view of Koyama 703 alone and in view of any combination of Koyama, Yamazaki and Shimoda.

Thus the Examiner's rejection of claims 1-16 should be reversed.

Respectfully submitted,

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